

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/535,047
Source: PG
Date Processed by STIC: 1/24/06

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 01/24/2006

PATENT APPLICATION: US/10/535,047

TIME: 10:50:03

Input Set : A:\Seqlist.txt

Output Set: N:\CRF4\01052006\J535047.raw

```

4 <110> APPLICANT: BRETT, Sara
5     HAMPLIN, Paul Andrew
6     OGILVIE, Louise
8 <120> TITLE OF INVENTION: Vaccine Against HCV
10 <130> FILE REFERENCE: PG5029
12 <140> CURRENT APPLICATION NUMBER: 10/535,047
13 <141> CURRENT FILING DATE: 2005-05-13
15 <150> PRIOR APPLICATION NUMBER: PCT/EP03/12830
16 <151> PRIOR FILING DATE: 2003-11-13
18 <150> PRIOR APPLICATION NUMBER: 0226722.7
19 <151> PRIOR FILING DATE: 2002-11-15
21 <160> NUMBER OF SEQ ID NOS: 24
23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 60
27 <212> TYPE: DNA
28 <213> ORGANISM: Hepatitis C virus
30 <400> SEQUENCE: 1
31 gaattcgcg cgcgcattgag caccaacccc aagccccagc gcaagaccaa gcggaacacc 60
34 <210> SEQ ID NO: 2
35 <211> LENGTH: 59
36 <212> TYPE: DNA
37 <213> ORGANISM: Hepatitis C virus
39 <400> SEQUENCE: 2
40 gaattcgcat cctcagcgcc tagcggggat ggtgaggcag ctacgcagcg ccagcagga 59
42 <210> SEQ ID NO: 3
43 <211> LENGTH: 55
44 <212> TYPE: DNA
45 <213> ORGANISM: Hepatitis C virus
47 <400> SEQUENCE: 3
48 gaattcgcg cgcgcattggc ccccatcacc gcctacagcc agcagaccgc gggac 55
50 <210> SEQ ID NO: 4
51 <211> LENGTH: 55
52 <212> TYPE: DNA
53 <213> ORGANISM: Hepatitis C virus
55 <400> SEQUENCE: 4
56 gaattcgcat cctcaggtga ccacctccag gtcagcggac atgcacgcca tgatg 55
58 <210> SEQ ID NO: 5
59 <211> LENGTH: 46
60 <212> TYPE: DNA
61 <213> ORGANISM: Hepatitis C virus
63 <400> SEQUENCE: 5
64 gaattcgcg cgcgcattgt ttgggccaag catatgtgga acttca 46

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```

66 <210> SEQ ID NO: 6
67 <211> LENGTH: 46
68 <212> TYPE: DNA
69 <213> ORGANISM: Hepatitis C virus
71 <400> SEQUENCE: 6
72 gaattcggat cctcagcaag gggtaggagca gtcctcggtg atccac          46
74 <210> SEQ ID NO: 7
75 <211> LENGTH: 49
76 <212> TYPE: DNA
77 <213> ORGANISM: Hepatitis C virus
79 <400> SEQUENCE: 7
80 gaattcgcgg ccgccatgtc catgtcctac acctggaccg gcgccctga      49
82 <210> SEQ ID NO: 8
83 <211> LENGTH: 49
84 <212> TYPE: DNA
85 <213> ORGANISM: Hepatitis C virus
87 <400> SEQUENCE: 8
88 gaattcggat cctcagcggg tgggcagcag gtagatgccg actccgacg      49
90 <210> SEQ ID NO: 9
91 <211> LENGTH: 191
92 <212> TYPE: PRT
93 <213> ORGANISM: Hepatitis C virus
95 <400> SEQUENCE: 9
96 Met Ser Thr Asn Pro Lys Pro Gln Arg Lys Thr Lys Arg Asn Thr Asn
97 1          5          10          15
98 Arg Arg Pro Gln Asp Val Lys Phe Pro Gly Gly Gly Gln Ile Val Gly
99          20          25          30
100 Gly Val Tyr Leu Leu Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala
101          35          40          45
102 Thr Arg Lys Thr Ser Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro
103          50          55          60
104 Ile Pro Lys Ala Arg Arg Pro Glu Gly Arg Ala Trp Ala Gln Pro Gly
105 65          70          75          80
106 Tyr Pro Trp Pro Leu Tyr Gly Asn Glu Gly Leu Gly Trp Ala Gly Trp
107          85          90          95
108 Leu Leu Ser Pro Arg Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro
109          100         105         110
110 Arg Arg Arg Ser Arg Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys
111          115         120         125
112 Gly Phe Ala Asp Leu Met Gly Tyr Ile Pro Leu Val Gly Ala Pro Leu
113          130         135         140
114 Gly Gly Ala Ala Arg Ala Leu Ala His Gly Val Arg Val Leu Glu Asp
115 145         150         155         160
116 Gly Val Asn Tyr Ala Thr Gly Asn Leu Pro Gly Cys Ser Phe Ser Ile
117          165         170         175
118 Phe Leu Leu Ala Leu Leu Ser Cys Leu Thr Ile Pro Ala Ser Ala
119          180         185         190
122 <210> SEQ ID NO: 10
123 <211> LENGTH: 632

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```

124 <212> TYPE: PRT
125 <213> ORGANISM: Hepatitis C virus
127 <400> SEQUENCE: 10
128 Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly
129 1 5 10 15
130 Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly
131 20 25 30
132 Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys
133 35 40 45
134 Ile Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
135 50 55 60
136 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
137 65 70 75 80
138 Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Met Thr
139 85 90 95
140 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
141 100 105 110
142 Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
143 115 120 125
144 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Val Gly Gly Pro Leu
145 130 135 140
146 Leu Cys Pro Ser Gly His Val Val Gly Ile Phe Arg Ala Ala Val Cys
147 145 150 155 160
148 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Ser Met
149 165 170 175
150 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
151 180 185 190
152 Ala Val Pro Gln Thr Phe Gln Val Ala His Leu His Ala Pro Thr Gly
153 195 200 205
154 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr
155 210 215 220
156 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly
157 225 230 235 240
158 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly
159 245 250 255
160 Val Arg Thr Ile Thr Thr Gly Ala Pro Ile Thr Tyr Ser Thr Tyr Gly
161 260 265 270
162 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile
163 275 280 285
164 Ile Cys Gln Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile
165 290 295 300
166 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val
167 305 310 315 320
168 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn
169 325 330 335
170 Ile Glu Glu Val Ala Leu Ser Asn Asn Gly Glu Ile Pro Phe Tyr Gly
171 340 345 350
172 Lys Ala Ile Pro Ile Glu Ala Ile Lys Gly Gly Arg His Leu Ile Phe
173 355 360 365

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```

174 Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly
175      370                      375                      380
176 Leu Gly Leu Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val
177 385                      390                      395                      400
178 Ile Pro Thr Ser Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met
179                      405                      410                      415
180 Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys
181                      420                      425                      430
182 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu
183      435                      440                      445
184 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly
185      450                      455                      460
186 Arg Thr Gly Arg Gly Arg Ser Gly Ile Tyr Arg Phe Val Thr Pro Gly
187 465                      470                      475                      480
188 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr
189                      485                      490                      495
190 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val
191                      500                      505                      510
192 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp
193      515                      520                      525
194 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp
195      530                      535                      540
196 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr
197 545                      550                      555                      560
198 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro
199                      565                      570                      575
200 Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr
201      580                      585                      590
202 Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn
203      595                      600                      605
204 Glu Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met
205      610                      615                      620
206 Ser Ala Asp Leu Glu Val Val Thr
207 625                      630
210 <210> SEQ ID NO: 11
211 <211> LENGTH: 214
212 <212> TYPE: PRT
213 <213> ORGANISM: Hepatitis C virus
215 <400> SEQUENCE: 11
216 Met Phe Trp Ala Lys His Met Trp Asn Phe Ile Ser Gly Ile Gln Tyr
217 1      5      10      15
218 Leu Ala Gly Leu Ser Thr Leu Pro Gly Asn Pro Ala Ile Ala Ser Leu
219      20      25      30
220 Met Ala Phe Thr Ala Ser Ile Thr Ser Pro Leu Thr Thr Gln Asn Thr
221      35      40      45
222 Leu Leu Phe Asn Ile Leu Gly Trp Val Ala Ala Gln Leu Ala Pro
223      50      55      60
224 Pro Ser Ala Ala Ser Ala Phe Val Gly Ala Gly Ile Ala Gly Ala Ala
225 65      70      75      80

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```

226 Val Gly Ser Ile Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly
227      85      90      95
228 Tyr Gly Ala Gly Val Ala Gly Ala Leu Val Ala Phe Lys Val Met Ser
229      100     105     110
230 Gly Glu Val Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile
231      115     120     125
232 Leu Ser Pro Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu
233      130     135     140
234 Arg Arg His Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg
235 145      150     155     160
236 Leu Ile Ala Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr
237      165     170     175
238 Val Pro Glu Ser Asp Ala Ala Ala Arg Val Thr Gln Ile Leu Ser Ser
239      180     185     190
240 Leu Thr Ile Thr Gln Leu Leu Lys Arg Leu His Gln Trp Ile Asn Glu
241      195     200     205
242 Asp Cys Ser Thr Pro Cys
243      210
246 <210> SEQ ID NO: 12
247 <211> LENGTH: 592
248 <212> TYPE: PRT
249 <213> ORGANISM: Hepatitis C virus
251 <400> SEQUENCE: 12
252 Met Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys Ala
253 1      5      10      15
254 Ala Glu Glu Ser Lys Leu Pro Ile Asn Pro Leu Ser Asn Ser Leu Leu
255      20      25      30
256 Arg His His Asn Met Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser Leu
257      35      40      45
258 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp His
259      50      55      60
260 Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val Lys
261 65      70      75      80
262 Ala Lys Leu Leu Ser Ile Glu Glu Ala Cys Lys Leu Thr Pro Pro His
263      85      90      95
264 Ser Ala Lys Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn Leu
265      100     105     110
266 Ser Ser Arg Ala Val Asn His Ile Arg Ser Val Trp Glu Asp Leu Leu
267      115     120     125
268 Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Ser Glu
269      130     135     140
270 Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu
271 145     150     155     160
272 Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala Leu
273      165     170     175
274 Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser Tyr
275      180     185     190
276 Gly Phe Gln Tyr Ser Pro Lys Gln Arg Val Glu Phe Leu Val Asn Thr
277      195     200     205

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VERIFICATION SUMMARY

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Input Set : A:\Seqlist.txt

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